

REMARKS

Claims 1-20 were pending in the application. Claims 4-6, 11, 13, and 15 have been canceled, and new claims 21-27 have been added. Support for the amendment to claim 1 and new claim 26 may be found, e.g., in Fig. 1 of the present application. Support for new claims 23 and 27 may be found, e.g., in Fig. 3. Support for new claims 21 and 24 may be found, e.g., on page 9, line 8 of the present application, and support for new claims 22 and 25 may be found, e.g., on page 8, line 13. Therefore, claims 1-3, 7-10, 12, 14, and 16-27 are now pending.

35 U.S.C. § 112 Rejections

Claims 8 and 19 are rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. The Office Action contends that the specification does not describe the manner in which the retardation plate is used to shape the stimulated light beam. Claim 19 has been amended to recite only that the module comprises at least one retardation plate, and does not claim any particular function of the retardation plate. Applicant respectfully submits that the specification enables one of ordinary skill in the art to make and use a module comprising at least one retardation plate. Therefore, withdrawal of the rejection to claim 19 is respectfully requested. Further, claim 8, without any amendment, already recites that the module comprises at least one retardation plate, and does not claim any particular function of the retardation plate. Therefore, withdrawal of the rejection to claim 8 is respectfully requested for similar reasons.

Applicant provides the following additional comments. One of ordinary skill in the art will recognize that the stimulated light beam may be shaped by a retardation plate as follows. The light of one arbitrary point in the fourier plane to the image plane illuminates the whole image plane. Therefore, the light of all points of the fourier plane will interfere in the image plane. If the phase or intensity of the light coming from different points in the fourier plane is influenced, the interference and therefore the image in the image plane will be changed, because the image in the image plane is the fourier transform of what is in the fourier plane. For example, if a slit is placed in the

fourier plane (which darkens some points completely), a typical diffraction pattern will be produced in the image plane whose mathematical function is the fourier transformation of the slit function. A focus in the image plane which is hollow in the middle can be achieved with a half-wave plate in the fourier plane, whereby the half-wave plate is transilluminated only from the inner part of the illumination beam (where the diameter of the half-wave plate is smaller than the diameter of the illumination beam), because the fourier transformation of the partially transilluminated half-wave plate is the hollow focus in the image plane.

Claims 1-20 are rejected under 35 U.S.C. §112, second paragraph, for indefiniteness. The claims have been amended where appropriate. Applicant believes that all outstanding §112 issues have been resolved. Withdrawal of the rejections is respectfully requested.

Prior Art Rejections

Claims 1, 6, 7, 9, and 10 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,866,911 to Baer (hereinafter "Baer"). Claims 3-5, 11, 13-18, and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Baer. Claims 2 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Baer in view of U.S. Patent No. 5,252,834 to Lin (hereinafter "Lin"). Claims 8 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Baer in view of U.S. Patent No. 5,731,588 to Hell et al. (hereinafter "Hell"). Applicant respectfully traverses these rejections for at least the following reasons.

Amended claim 1 recites that the module comprises multiple optical elements, pre-aligned with respect to each other, which shape the stimulating light beam, and is adjustable with respect to the scanning microscope. None of the cited references teaches, discloses, or suggests these features. For example, Baer discloses a scanning optical system having an excitation laser 10, a quenching laser 11, and various shaping elements, such as a pinhole aperture 13 and 22, and an annular aperture 21. (See, e.g., Figs. 1A, 1B, and 2.) Baer does not teach, suggest, or disclose that these elements are pre-aligned with respect to each other, or that a module comprising these elements is adjustable with respect to the scanning microscope. Neither Lin nor Hell

cures the deficiencies of Baer. Therefore, claim 1, and all claims dependent therefrom, are believed to be patentable over the cited references. Withdrawal of these rejections is respectfully requested.

Independent claims 23, 26, and 27 contain similar patentable limitations. Therefore, claims 23, 26, and 27, and all claims dependent therefrom, are believed to be patentable over the cited references for at least similar reasons. Withdrawal of these rejections is respectfully requested.


Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By



Glenn Law
Attorney for Applicants
Registration No. 34,371

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FOLEY & LARDNER LLP
Customer Number: 22428
22428

PATENT TRADEMARK OFFICE

Telephone: (202) 672-5426
Facsimile: (202) 672-5399

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